

REMARKS/ARGUMENTS

In the Office Action mailed October 10, 2008, claims 1-4, 6, and 7 are rejected. Claim 5 is objected to, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Additionally, the drawings are objected to. In response, claim 2 has been amended and claims 8-12 have been added. Applicant hereby requests reconsideration of the application in view of amended claim, the new claims and the below-provided remarks.

Allowable Subject Matter

Applicant appreciates the Examiner's review of and determination that claim 5 recites allowable subject matter. In particular, the Office Action states that claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicant has added independent claim 8, which includes all of the limitations of claims 1 and 5.

Additionally, Applicant has added dependent claims 9-12. Support for the new claims 9-12 is found in Applicant's specification at, for example, original claims 1-3, 6, and 7. Dependent claims 9-12 depend from and incorporate all of the limitations of the independent claim 8. As a result, Applicant respectfully asserts that claims 9-12 are allowable at least based on an allowable claim 8.

Thus, Applicant respectfully submits that claims 8-12 are now in condition for allowance.

Objections to the Drawings

The Office Action states that Figures 1 and 2 should be designated by a legend, such as "Prior Art." The current application is a U.S. National Stage application. The drawing requirements for U.S. National Stage applications are identified in MPEP 1825 and labeling of figures as "Prior Art" is not required (see PCT Rule 11.11). Further, MPEP 1893.03(f) states that "[t]he USPTO may not impose requirements beyond those imposed by the Patent Cooperation Treaty (e.g., PCT Rule 11)." In view of the above, Applicant respectfully asserts that labeling Figures 1 and 2 as "Prior Art" is not required.

in the current application. As a result, Applicant respectfully requests that the objections to the drawings be withdrawn.

Claim Rejections under 35 U.S.C. 103

Claims 1, 2, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Souetinov (U.S. Pat. No. 7,016,664) in view of Bastani et al. (U.S. Pat. No. 6,157,822, hereafter Bastani). Claim 3 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Souetinov in view of Bastani and further in view of Rokos (EP 0434203). Applicant respectfully submits that the pending claims are patentable over Souetinov, Bastani, and Rokos for the reasons provided below.

Independent Claim 1

Souetinov is cited for teaching all of the limitations of claim 1, except “*the four branches each including at least an impedance having identical characteristics*” as recited in claim 1. Bastani is cited for teaching the above-identified limitation.

Applicant respectfully asserts that Souetinov fails to teach “*said signal processing circuit being intended to receive a pair of input signals in phase opposition on two input terminals and to provide two pairs of output currents in phase opposition on four output terminals*” (emphasis added), as recited in claim 1. In particular, Souetinov fails to teach two pairs of output currents in phase opposition as recited in claim 1. Souetinov teaches that a transconductor circuit (51) provides output currents to four transistor pairs TP3/TP4, TP5/TP6, TP7/TP8, and TP9/TP10, see Fig. 5 and column 7 lines 27-39. As illustrated in Fig. 5, the same current ($2I_0$) is output to each of the four transistor pairs. Because the same current ($2I_0$) is output to each of the four transistor pairs, Souetinov fails to teach that transconductor circuit (51) provides output currents in phase opposition on the four transistor pairs TP3/TP4, TP5/TP6, TP7/TP8, and TP9/TP10. Because Souetinov fails to teach that transconductor circuit (51) provides output currents in phase opposition on the four transistor pairs, Applicant respectfully asserts that Souetinov fails to teach “*said signal processing circuit being intended to receive a pair of input signals in phase opposition on two input terminals and to provide two pairs of output currents in phase opposition on four output terminals*” (emphasis added), as recited in claim 1.

Additionally, Applicant respectfully asserts that Bastani fails to teach “*the four branches each including at least an impedance having identical characteristics*” as recited in claim 1. That is, Bastani fails to teach that multiple impedance matching circuits are implemented with identical impedance characteristics. Bastani teaches a single impedance matching circuit. In particular, Bastani teaches that an impedance matching circuit (207) is implemented between a mixer (105) and a transconductance amplifier (203), see Fig. 4 and column 2 lines 50-60. Because Bastani teaches a single impedance matching circuit (207), there is no need for Bastani to address multiple impedance matching circuits. Additionally, a single impedance matching circuit (207) teaches nothing about relationships between multiple impedance matching circuits. Accordingly, Applicant respectfully asserts that Bastani fails to teach “*the four branches each including at least an impedance having identical characteristics*” as recited in claim 1.

Applicant respectfully submits that it is also not obvious to apply the impedance matching circuit (207) of Bastani four times with identical impedance characteristics because impedance matching conditions between two mixer circuits and each of four amplification units can be different from each other.

Accordingly, Applicant respectfully asserts that Souetinov in view of Bastani fails to teach all of the limitations of claim 1. Thus, Applicant respectfully asserts that a *prima facie* case of obviousness has not been established with respect to claim 1.

Dependent Claims 2-7

Claims 2-7 depend from and incorporate all of the limitations of the independent claim 1. Applicant respectfully asserts that claims 2-7 are allowable at least based on an allowable claim 1. Additionally, claim 2 may be allowable for further reasons respectively, as described below.

The Office Action states that claim 2 simply expresses an intended result. Claim 2 has been amended to recite that “each of the four branches of the two splitting units are further configured to exhibit an impedance, wherein the impedance has a resistance value such that said value determines the splitting of the input signal independently of the stacked mixer circuits.” As amended, claim 2 recites limitations of the splitting units.

The limitations of the splitting units are not simply expressions of an intended result and therefore should be given weight and examined accordingly.

Additionally, Applicant respectfully submits that Bastani fails to teach that “*the impedance has a resistance value such that said value determines the splitting of the input signal independently of the stacked mixer circuits*” (emphasis added), as recited in claim 2. Bastani teaches that an impedance matching circuit (207) is implemented between a mixer (105) and a transconductance amplifier (203), see Fig. 4 and column 2 lines 50-60. However, Bastani fails to teach that the splitting of an input signal from an RF input (201) is determined by a resistance value of the impedance matching circuit (207) independently of the mixer (105). In particular, Bastani fails to teach that the mixer (105) does not play a role in the splitting of an input signal from the RF input (201). Because Bastani fails to teach that a resistance value of the impedance matching circuit (207) determines the splitting of an input signal independently of the mixer (105), Applicant respectfully asserts that Bastani fails to teach the above-identified limitation. Accordingly, Applicant respectfully asserts that Souetinov in view of Bastani fails to teach all of the limitations of claim 2. Thus, Applicant respectfully asserts that a *prima facie* case of obviousness has not been established with respect to claim 2.

CONCLUSION

Applicant respectfully requests reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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